

AMENDMENTS TO THE CLAIMS:

Please amend the claims, as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) A signal processing method comprising:

receiving a first wireless communication signal, the first signal including

distortion produced by pulse shaping;

obtaining an approximation of the pulse shaping distortion;

separating the approximation of the pulse shaping distortion from the first

signal to obtain a second signal; and

processing the second signal to obtain a user signal.
2. (Original) The method of claim 1, further comprising:

conducting a single-user detection; and

obtaining an amplitude estimate and a symbol delay for a user in a frame.
3. (Original) The method of claim 1, wherein the second signal has insignificant or no pulse shaping effects.
4. (Currently Amended) The method of claim 1, wherein separating the approximation of the pulse shaping distortion from the first signal comprises applying an equalization between the second signal and an original signal before pulse shaping.

5. (Currently Amended) The method of claim 1, wherein separating the approximation of the pulse shaping distortion from the first signal comprises applying a decision feedback equalization between the second signal and an approximation of an original signal before pulse shaping based on a current decision.
6. (Previously Presented) The method of claim 1, wherein separating the approximation of the pulse shaping distortion from the first signal comprises applying at least one order of perturbation to adjust the approximation of the pulse shaping distortion.
7. (Currently Amended) The method of claim 1, wherein separating the approximation of the pulse shaping distortion from the first signal comprises:
applying at least ~~two equalizations~~ one equalization; and
repetitively applying at least one order of perturbation to adjust the approximation of the pulse shaping distortion.
8. (Previously Presented) The method of claim 1, wherein separating the approximation of the pulse shaping distortion from the first signal comprises separating an approximately known function of pulse shaping from an unknown function of a time-varying channel function.
9. (Currently Amended) A signal processing method comprising:

receiving a first wireless communication signal, the first signal including
distortion produced by a non-channel function;
obtaining an approximation of the non-channel ~~function~~ distortion;
separating the approximation of the non-channel ~~function~~ distortion from
the first signal to obtain a second signal that includes a time-varying
channel function; and
processing the second signal to obtain a user signal.

10. (Previously Presented) The method of claim 9, wherein the non-channel function comprises a transformation function.
11. (Currently Amended) The method of claim 9, further comprising:
conducting a single user detection; and
obtaining an amplitude estimate and a symbol delay for a user in a frame
to obtain the approximation of the non-channel ~~function~~ distortion.
12. (Currently Amended) The method of claim 9, wherein the second signal has insignificant or no non-channel ~~functions~~ distortion.
13. (Currently Amended) The method of claim 9, wherein separating the approximation of the non-channel ~~function~~ distortion from the first signal comprises applying an equalization between the second signal and an original signal before non-channel transformation.

14. (Currently Amended) The method of claim 9, wherein separating the approximation of the non-channel ~~function~~ distortion from the first signal comprises applying a decision feedback equalization between the second signal and an approximation of an original signal before non-channel transformation based on a current decision.
15. (Currently Amended) The method of claim 9, wherein separating the approximation of the non-channel ~~function~~ distortion from the first signal comprises applying at least one order of perturbation to adjust the approximation of the non-channel ~~function~~ distortion.
16. (Currently Amended) The method of claim 9, wherein separating the approximation of the non-channel ~~function~~ distortion from the first signal comprises separating an approximately known non-channel ~~function~~ distortion from an unknown ~~function~~ distortion of a time-varying channel function.
17. (Currently Amended) The method of claim 9, wherein separating the approximation of the non-channel ~~function~~ distortion from the first signal comprises:
 - applying at least ~~two equalizations~~ one equalization; and
 - repetitively applying at least one order of perturbation to adjust the approximation of the non-channel function.

18. (Currently Amended) A signal processing system, comprising:
- a receiver for receiving a first signal for wireless communication;
 - a tracking device for obtaining an amplitude estimate and a symbol delay for a user;
 - an approximating device, coupled to the tracking device, for providing an approximation of distortion produced by a non-channel function in the first signal; and
 - a signal-separating device, coupled to the approximating device, for separating the approximation of the non-channel ~~function~~ distortion from the first signal to obtain a second signal that includes a time-varying channel function.
19. (Previously Presented) The system of claim 18, wherein the non-channel function comprises a transformation function.
20. (Currently Amended) The system of claim 18, wherein separating the approximation of the non-channel ~~function~~ distortion from the first signal comprises at least one of the following process:
- applying at least one equalization; and
 - applying at least one order of perturbation to adjust the approximation of the non-channel ~~function~~ distortion.
21. (Cancelled)